CLAIMS

1. Method for connecting a first user-terminal (UT1) to a second user-terminal (UT2) over a network such as the internet and said network containing a plurality of user-terminals (UT1, UT2) and a plurality of network access servers (NAS1, NAS2, NAS3) each of said plurality of user-terminals (UT1, UT2) being coupled to a respective network access server of said plurality of network access servers (NAS1, NAS2, NAS3), **CHARACTERISED IN THAT** said method comprises the steps of:

a. at connection of said second user-terminal (UT2) to its respective network access server (NAS1) sending connection information by said respective network access server (NAS1) to a subscriber data server (SDS) included in said network and coupled to each network access server (NAS1, NAS2, NAS3);

b. updating a database of said subscriber data server (SDS) with said connection information;

c. handling by said subscriber data server (SDS) of an incoming call request from said first user-terminal (UT1) in order to establish a connection between said first user-terminal (UT1) and said second user-terminal (UT2) said first user-terminal (UT1) being connected to a first virtual private network, said second user-terminal (UT2) being connected to a second virtual private network;

d. searching in said database of said subscriber data server (SDS) for connection information of said second user-terminal (UT2);

e. said subscriber data server (SDS) determining said respective network access server (NAS1) connected to said second user-terminal (UT2), using said connection information;

f. notifying said second user-terminal (UT2) about said requesting of said communication by said first user-terminal (UT1);

g. said second user-terminal (UT2) initiating and controlling a switch-over of said connection of said second user-terminal (UT2) from said second virtual private network to said first virtual private network;

h. said respective network access server (NAS1) of said second user-terminal (UT2) switching said connection of said second user-terminal (UT2) from said second virtual private network to said first virtual private network; and

i. At switch-over of said connection of said second user-terminal (UT2) from said second virtual private network to said first virtual private network sending connection information by said respective network access server (NAS1) to said subscriber data server (SDS).

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2. Method according to claim 1, **CHARACTERISED IN THAT** said step of notifying said second user-terminal (UT2) about said requesting of said communication by said first user-terminal (UT1) is performed according to the following steps of:

a. receiving said incoming call request of said subscriber data server (SDS) at said respective network access server (NAS1) connected to said second user-terminal (UT2); and

b. said respective network access server (NAS1) connected to said second user-terminal (UT2) sending said incoming call request of said first user-terminal (UT1) to said second user-terminal (UT2).

3. Method according to claim 1, **CHARACTERISED IN THAT** said step of notifying said second user-terminal (UT2) about said requesting of said communication by said first user-terminal (UT1) is performed over a transparent connection between said subscriber data server (SDS) and said second user-terminal (UT2) via said respective network access server (NAS1) connected to said second user-terminal (UT2).

4. Method according to claim 1, **CHARACTERISED IN THAT** said method further comprises before step c, the steps of:

a. receiving said incoming call request of said first user-terminal (UT2) at said respective network access server (NAS2) connected to said first user-terminal (UT1); and

b. said respective network access server (NAS2) connected to said first user-terminal (UT1) sending said incoming call request of said first user-terminal (UT1) to said subscriber data server (SDS).

5. Method according to claim 1, **CHARACTERISED IN THAT** said method further comprises before step c, the step of sending said incoming call request of said first user-terminal (UT1) over a transparent connection between said first user-terminal (UT1) and said subscriber data server (SDS) via said network access server (NAS2) connected to said first user-terminal.

6. Network Access Server (NAS1) for enabling a connection between a first user-terminal (UT1) and a second user-terminal (UT2) over a network such as the internet, said network containing a plurality of user-terminals (UT1, UT2) and a plurality of network access servers (NAS1, NAS2, NAS3) each of said plurality of user-terminals (UT1, UT2) being coupled to a respective network access server of said plurality of network access servers (NAS1, NAS2, NAS3),
CHARACTERISED IN THAT said network access server (NAS1) comprises the following means to enable said connection using the method according to claim 1:

a. switch notification reception means (SNRM), adapted to receive a request from said second user-terminal (UT2) to initiate a switch-over of a connection of said second user-terminal (UT2) from a second virtual private network to a first virtual private network;

b. switching means (SM), coupled with an input to an output of said switch notification reception means (SNRM) and adapted to perform said switch-over of said connection of said second user-terminal (UT2) from said second virtual private network to said first virtual private network; and

c. user-terminal connect notification sending means (HCNSM), coupled with an input to an output of said switching means (SM) and adapted to send connection information to said subscriber data server (SDS) at connecting of said second user-terminal (UT2) to said respective network access server (NAS1) and at switch-over of said connection of said second user-terminal (UT2) from said second virtual private network to said first virtual private network.

7. Network access server (NAS1) according to claim 6, **CHARACTERISED IN THAT** said network access server (NAS1) further comprises:

a. connection establishment request reception means (CERRM1), adapted to receive a connection request from said subscriber data server (SDS) to establish said connection between said first user-terminal (UT1) connected to said first virtual private network and said second user-terminal (UT2) connected to said second virtual private network via said respective network access server (NAS1); and

b. connection establishment request sending means (CERSM2), coupled with an input to an output of said connection establishment requesting reception means (CERRM1) and adapted to notify said second user-terminal (UT2) about an incoming call from said first user-terminal (UT1).

8. Network Access Server (NAS2), for enabling a connection between a first user-terminal (UT1) and a second user-terminal (UT2) over a network such as the internet, said network containing a plurality of user-terminals (UT1, UT2) and a plurality of network access servers (NAS1,NAS2, NAS3) each of said plurality of user-terminals (UT1, UT2)

being coupled to a respective network access server of said plurality of network access servers (NAS1,NAS2, NAS3), **CHARACTERISED IN THAT** said network access server (NAS2) comprises the following means to enable said connection using the method according to claim 2:

a. connection establishment request reception means (CERRM4), adapted to receive a connection request from said first user-terminal (UT1) to establish said connection between said first user-terminal (UT1) connected to said first virtual private network and said second user-terminal (UT2) connected to said second virtual private network; and

b. connection establishment request sending means (CERSM4), coupled with an input to an output of said connection establishment requesting reception means (CERRM4) and adapted to notify said subscriber data server (SDS) about an incoming call from said first user-terminal (UT1).

9. Network access server according to claim 6, **CHARACTERISED IN THAT** said Network access server further comprises:

a. connection establishment request reception means (CERRM2), adapted to receive a connection request from said first user-terminal (UT1) to establish said connection between said first user-terminal (UT1) connected to said first virtual private network and said second user-terminal (UT2) connected to said second virtual private network; and

b. connection establishment request sending means (CERSM3), coupled with an input to an output of said connection establishment requesting reception means (CERRM2) and adapted to notify said subscriber data server (SDS) about an incoming call from said first user-terminal (UT1).

10. Subscriber Data Server (SDS), for enabling a connection of a first user-terminal (UT1) to a second user-terminal (UT2) over a network such as the internet, said network containing a plurality of user-terminals (UT1, UT2) and a plurality of network access servers (NAS1, NAS2, NAS3) each of said plurality of user-terminals (UT1, UT2) being coupled to a respective

network access server of said plurality of network access servers (NAS1, NAS2, NAS3) and said subscriber data server (SDS) being coupled to each network access server of said plurality of network access servers (NAS1, NAS2, NAS3), said subscriber data server comprises the following means to enable said connection using the method according to claim 1:

a. user-terminal connect notification reception means (UTCNRM), adapted to receive said connection information at connection of said second user-terminal (UT2) to said respective network access server (NAS1) and at switch-over of said connection of said second user-terminal (UT2) from said second virtual private network to said first virtual private network;

b. user-terminal connect notification updating means (UTCNUM) coupled with an input to an output of said user-terminal connect notification reception means (UTCNRM) and adapted to update a database of said subscriber data server (SDS) with said connection information;

c. connection establishment request reception means (CERRM), adapted to receive a connection request from said first user-terminal (UT1) to establish a connection between said first user-terminal (UT1) connected to a first virtual private network and said second user-terminal (UT2) connected to said second virtual private network;

d. connection information searching means (RISM), coupled with an input to an output of said connection establishment request reception means (CERRM) and adapted to search in said database of said subscriber data server (SDS) for connection information of said second user-terminal (UT2); and

e. connection establishment request sending means (CERSM1), coupled with an input to an output of said Connection information searching means (RISM) and adapted to notify said second user-terminal (UT2) about an incoming call from said first user-terminal (UT1).

11. Second user-terminal (UT2), for inclusion in a network such as the internet containing a plurality of such user-terminals and a plurality of

network access servers (NAS1, NAS2, NAS3) each of said plurality of user-terminals (UT1, UT2) being coupled to a respective network access server of said plurality of network access servers (NAS!, NAS2, NAS3), **CHARACTERISED IN THAT** said second user-terminal (UT2) comprises the following means for enabling a connection between a first user-terminal (UT1) and itself over said network using a method according to claim1:

a. connection establishment request reception means (CERRM3), adapted to receive a connection request from said first user-terminal (UT1) via its respective network access server (NAS2) to establish a connection to said second user-terminal (UT2);

b. incoming call handling means (ICHM), coupled with an input to an output of said connection establishment request reception means (CERRM3) and adapted to handle said connection request from said first user-terminal (UT1); and

c. switch requesting means (SRM), coupled with an input to an output of said incoming call handling means (ICHM) and adapted to request said respective network access server (NAS1) to switch said connection of said second user-terminal (UT2) from a second virtual private network to a first virtual private network.

12. Software module for running on a processing system for inclusion in a Subscriber Data Server (SDS) and for enabling a connection of a first user-terminal (UT1) to a second user-terminal (UT2) over a network such as the internet, said network containing a plurality of user-terminals (UT1, UT2) and a plurality of network access servers (NAS1, NAS2, NAS3) each of said plurality of user-terminals (UT1, UT2) being coupled to a respective network access server of said plurality of network access servers (NAS1, NAS2, NAS3) and said subscriber data server (SDS) being coupled to each network access server of said plurality of network access servers (NAS1, NAS2, NAS3), said software module comprises the

following software sub-modules to enable said connection using the method according to claim 1:

a. user-terminal connect notification reception sub-module, adapted to receive said connection information at connection of said second user-terminal (UT2) to said respective network access server (NAS1) and at switch-over of said connection of said second user-terminal (UT2) from said second virtual private network to said first virtual private network;

b. user-terminal connect notification updating sub-module, co-operating with said user-terminal connect notification reception sub-module and adapted to update a database of said subscriber data server (SDS) with said connection information;

c. connection establishment request reception sub-module, adapted to receive a connection request from said first user-terminal (UT1) to establish a connection between said first user-terminal (UT1) connected to a first virtual private network and said second user-terminal (UT2) connected to said second virtual private network;

d. connection information searching sub-module, co-operating said connection establishment request reception sub-module and adapted to search in said database of said subscriber data server (SDS) for connection information of said second user-terminal (UT2); and

e. connection establishment request sending sub-module, co-operating with said connection information searching sub-module and adapted to notify said second user-terminal (UT2) about an incoming call from said first user-terminal (UT1).

13. Software module for running on a processing system for inclusion in a second user terminal (UT2) and for inclusion in a network such as the internet containing a plurality of such user-terminals and a plurality of

network access servers (NAS1, NAS2, NAS3) each of said plurality of user-terminals (UT1, UT2) being coupled to a respective network access server of said plurality of network access servers (NAS1, NAS2, NAS3), **CHARACTERISED IN THAT** said software module comprises the following software sub-modules for enabling a connection between a first user-terminal (UT1) and itself over said network using a method according to claim1:

a. connection establishment request reception sub-module, adapted to receive a connection request from said first user-terminal (UT1) via its respective network access server (NAS2) to establish a connection to said second user-terminal (UT2);

b. incoming call handling sub-module, co-operating with said connection establishment request reception sub-module and adapted to handle said connection request from said first user-terminal (UT1); and

c. switch requesting sub-module, co-operating with said incoming call handling sub-module and adapted to request said respective network access server (NAS1) to switch said connection of said second user-terminal (UT2) from a second virtual private network to a first virtual private network.